

# ★ 7PTRWM

# Alaska

Comprehensive System of Student Assessment

## Standards Based Assessments

Grade 7

Reading ★ Writing ★ Mathematics  
Practice Test Book



Spring 2012

Alaska Department of Education & Early Development

Name: \_\_\_\_\_

## READING

### READING—SAMPLE QUESTIONS

#### Directions

Read the Sample Passage and Sample Questions A and B. Mark your answer to Sample A on page 3 in your practice test answer booklet. Fill in the circle that goes with the answer you choose. Be sure to fill in the circle completely and make your mark heavy and dark. If you want to change your answer, completely erase the mark you made before making a new mark. For Sample B, write your answer on the lines provided on page 3 in your practice test answer booklet.

#### SAMPLE PASSAGE

Pedaling his bike quickly to catch up with the others, Nick called out, “Wait up for me!”

The trio of Marta, Peter, and Tasha turned around when they heard their friend, Nick, calling. They all lived in the same neighborhood and were riding their bikes over to the community center. It was the day of the annual community center sale, and Peter and Tasha had volunteered to work in the food stand selling hotdogs, popcorn, and lemonade. Nick was going to help carry packages for people. Because she wanted to be a photographer someday, Marta was going to take pictures at the event. She hoped one of the pictures would be printed in *The Watertown Weekly*.

After Nick caught up, the four friends hurried to the community center. As they entered, volunteers were busy at the many tables and booths in the community center’s gymnasium.

“I sure hope this sale is successful,” said Tasha as they walked past the broken scoreboard that was missing light bulbs and no longer kept accurate score.

“Me too,” agreed Nick. “Ever since they took out the basketball hoops, I haven’t had any place to bring my younger brother and sister to play.”

“I heard that we might also be able to get new books,” said Tasha.

Suddenly a voice came over the loudspeaker announcing the start of the sale.

“We had better get to work!” exclaimed Marta.

## READING

### Sample A

What is Marta doing at the community center sale?

- A selling food
- B taking pictures
- C carrying packages
- D making announcements

### Sample B

Turn to page 3 in your answer booklet to complete Sample B.



## READING

Read the passage about a school project. Then, answer the questions that follow.

### A Sizable Science Project

John Charlie was stuck. He had to come up with a science project, and fast. He had put off his science homework until after supper and soccer practice. Now he was desperate for an idea. Ms. Hays, his science teacher, expected John's first worksheet on the project tomorrow. He stared for a while at the blank following "Science Project Idea." John Charlie sighed and turned on the TV. The local news was just ending. The announcer, who always ended the news with a joke or funny story, was reading a list of people born on this day. John Charlie was not really paying attention until he heard the announcer say, "The prize for the biggest cabbage ever grown was awarded to Dr. Bernard Lavery, whose birthday is today. His world-record cabbage covered an area that measured 12 feet by 13 feet and weighed 124 pounds. Now, folks, that's a lot of cabbage salad!" John thought to himself, "That's it! I'll plant some cabbage seeds and document their growth."

The next day, John Charlie stood and looked at his handiwork. He had bought two rectangular, shallow containers at the gardening center. He had also purchased some special soil—a plant mixture that the master gardener had told him would work best indoors for starting cabbage seeds.

Following the instructions on a handout that the gardening center had provided, he had filled his seedling trays with the soil mixture and had spread the

seeds evenly, covering them with a thin layer of soil. One container would be the control group, and one would be the experimental group. He planned to add extra fertilizer to the experimental group. He stood back and took a photograph of his project. He also had to keep records, so John Charlie wrote in his notebook exactly what he had done that day.

All was going well, until two weeks later, John Charlie returned from school to find a huge mess in his room. "LouAnne!" he called. "What did you do?" LouAnne was John's younger sister and a very curious second grader. John immediately suspected that she was responsible for the overturned tray of experimental seeds that lay on the floor. Soil was scattered beneath the window. "LouAnne!" John called again, his voice rising.

The truth was his sister had forgotten to close the door to his room when looking at the seedlings. His big, messy, overgrown dog had bounded into his room and overturned the experimental tray of seeds. Now he would have to start over. John took a photograph of the mess and entered in his science notebook: "Disaster. Major setback."

When he reported the trouble, Ms. Hays told him how to solve the problem. He took half of the undamaged seeds and used them for the experimental group. He applied even more fertilizer, trying to make up some time for the lost seedlings.

## READING

Later, John Charlie noticed one of the cabbage seedlings was enormous. He couldn't figure out why or what to do with this seedling gone wild. He had about six weeks left until the science project was due. He had half a tray of normal-looking seedlings, half a tray of larger-than-normal seedlings, and one giant seedling.

John just had to ask for more help. "Ms. Hays," John said, "you'll never believe what is happening to my cabbage seedlings." After John explained the situation, Ms. Hays laughed. "Sounds like you have a maverick, John!" said Ms. Hays. Then she advised John to take the giant seedling out, and replant it in a much larger container. Ms. Hays also advised him that a sugar-water mixture was an additional treat that some growers gave their cabbage. "Many great science discoveries happened because of accidents or surprises," added Ms. Hays. "Let's just see what happens to your cabbage!"

Each night, John looked at his giant cabbage. All the seedlings were growing according to predictions, except the giant, which was getting bigger and bigger. Unfortunately, it was now also looking a little sickly, and the due date for John's project was still a few weeks away. It would be a shame if the giant cabbage, which John had nicknamed "Yao Ming the Cabbage King" after his favorite basketball player, didn't make it to the end of the project. John didn't know what to do. His cabbage looked as though it was splitting in half.

He turned on the TV to take his mind off his science project and saw the end of the news. That gave John an idea. He would try to contact Dr. Bernard Lavery,

the man who had grown the world's largest cabbage, and ask for advice.

The next day at school, the librarian helped John look up an article by Dr. Lavery. The article, "My World Record Cabbage," suggested dripping a mixture of water and nitrogen on the soil under the bottom leaves. It also directed that this be done no more than twice a week. John also learned that when he was ready to weigh the cabbage for his final project, he was to dig up the root and wrap wet toweling around it so that the cabbage would not lose too much weight from water loss.

To John's relief, the cabbage began to recover and to grow even more. By the time he was ready to carry it to school, the cabbage weighed a whopping 50 pounds. On the day the science project was due, John and his dad loaded it into the car and drove to the school. The giant cabbage tilted in the back, but John steadied it by reaching over the backseat and holding it. Classmates gathered round to watch John unload his project. As he entered the science classroom, Ms. Hays turned around, shocked by the size of the cabbage. "John!" Ms. Hays said, "I had no idea . . ."

"Cabbage, anyone?" John joked. With immense relief, he and his dad put the cabbage in the front of the classroom, and John turned and proudly handed in his science notebook. "You know, Ms. Hays," John said, "after you grade my science project, I'd like this cabbage back. I'd like to keep it going over the summer and see how big it will get for the state fair in September. Maybe I could grow the biggest science project cabbage in Alaska!"

## READING

1. How does John Charlie decide what to do for his project?
  - A His teacher suggests growing plants.
  - B His sister mentions using seedling trays.
  - C He hears a report about a world record on the news.
  - D He finds an article about gardening at the library.
  
2. Why does John Charlie purchase special potting soil?
  - A The master gardener said it would work best for indoor planting.
  - B The effect of the soil is the main part of the experiment.
  - C It is a recommendation by Dr. Bernard Lavery.
  - D It is a special request from Ms. Hays.
  
3. Which **best** explains why John Charlie takes photographs of his project?
  - A to describe the project to his father
  - B to prove that he has started the project
  - C to assemble the project later
  - D to record the progress of the project

## READING

4. Ms. Hays can **best** be described as

- A strict.
- B cautious.
- C amusing.
- D encouraging.

5. Read this sentence from the passage.

“All the seedlings were growing according to predictions, except the giant, which was getting bigger and bigger.”

Which is a synonym for the word “predictions”?

- A conditions
- B forecasts
- C practices
- D measurements

6. What is John Charlie’s main problem in the passage?

- A growing all the experimental cabbages the same size
- B keeping the cabbage healthy until the project due date
- C preventing the cabbage from tipping over in the car
- D growing a cabbage in a small container

## READING

7. What is the main purpose of wrapping the cabbage's roots with wet toweling?
- A to save the cabbage for the state fair
  - B to keep important nutrients in the cabbage
  - C to hold the cabbage together during transport
  - D to prevent the cabbage from losing water weight
8. Which would be the **best** new title for the passage?
- A "A Cabbage That Wins a Prize"
  - B "A Garden Like No Other"
  - C "An Uncommon Cabbage"
  - D "An Indoor Garden"

Turn to page 4 in your answer booklet to complete question 9.



## READING

Read the interview and answer the questions that follow.

### Digging for History: An Interview with Archaeologist John Blitz

by Meg Chorlian

“To me, the most rewarding thing about being an archaeologist is discovering something about a past way of life that no one else knows, and then sharing this new knowledge with others,” says John Blitz, professor and archaeologist at the University of Alabama. “Archaeologists dig at sites for clues about past human societies. An archaeologist is an explorer, a time traveler, and a detective, all in one person.”

Sounds exciting, doesn’t it? Blitz tells us it takes a lot of “time, money, effort, and teamwork just to dig an archaeological site. Then even more time and effort is needed to study the recovered materials and write up the results of the investigations.”

Blitz was eighteen years old and in his first year of college when he got his introduction to the world of archaeology. The professor of Blitz’s course on North American Indians announced that there was going to be a dig in Alabama that summer. Blitz participated in the dig and there felt the excitement of being the first person to touch an artifact in one thousand or more years.

**Question:** How do you spend your days?

**Blitz:** When on an archaeological dig, there are many things to do. I must make sure the team of archaeologists is comfortably housed and fed. The equipment must be kept in good order; the artifacts washed and cleaned; the maps, photos, and notes that document the dig

must be organized; and many other daily decisions must be made.

I am a college professor, so I teach classes on archaeology. I spend much of my time reading and writing about archaeology. Other archaeologists work in museums caring for the artifacts in the museum’s collection and creating displays that show what has been learned about past societies. Still other archaeologists work to protect sites, or they find and excavate sites before the sites are disturbed by land development.

**Question:** What are some questions an archaeologist on a dig hopes to answer?

**Blitz:** Some basic research questions are: Where did people live? What evidence of their presence did they leave behind? When did they live in a particular place? How did they feed themselves?

An example of how we try to answer the last question is this: Soil and ash from the remains of house floors or cooking fires are placed in a barrel of water. Seeds and bone bits that float to the surface are collected for study.

From these tiny bits and pieces, archaeologists can determine which plants and animals were used as food.

**Question:** What tools are used on a dig?

**Blitz:** Trowels and brushes are used to carefully remove thin layers of dirt so that small objects such as shell beads are not missed or damaged. Trowels are small

## READING

digging tools with pointed, wide blades. The dirt is passed through wooden-framed wire screens, which catch small artifacts such as broken pottery and stone tools. Shovels, buckets, and wheelbarrows are used to remove dirt from a site.

**Question:** What are some of the most fascinating artifacts you have found?

**Blitz:** To an archaeologist, things are fascinating for what they reveal about the people who made them. I participated in a dig that excavated a village from the Mississippian culture in Lubbub Creek, Alabama, around 1979. The site was going to be destroyed by the construction of a canal. We found the chief's house on an earthen mound, as well as other, smaller houses. We found the copper headdress and breastplate of a Mississippian chief. The items were covered with shapes of copper arrowheads that had been worked into a band.

**Question:** What happened to the headdress and breastplate?

**Blitz:** They were made of very thin metal, so we painted them with a chemical solution to prevent them from decomposing any further. Like many archaeological findings, these eventually were placed with a museum once we had completed our study of them. Most museums, especially public ones, make things available to all scholars so they can be studied again.

**Question:** What are the oldest artifacts you know of that have been found on a dig?

**Blitz:** In the Southeast, archaeologists have discovered stone spear points of the first humans to enter the region more than eleven thousand years ago. These first southeastern Indians are known as the Clovis culture. They hunted Ice Age animals, such as the mastodon, that are now extinct.

**Question:** What are the best traits or characteristics for an archaeologist to have?

**Blitz:** The same traits that make for a good scientist or historian: curiosity, imagination, patience, and a willingness to work hard to accomplish one's goals.

**Question:** What is the most difficult aspect about this occupation?

**Blitz:** Like anything worth doing well, it is difficult to learn to be an archaeologist. Only an archaeologist can carefully dig up artifacts in a way that discovers the clues that reveal how all the bits and pieces fit together. From the bits and pieces, we then have to decipher how people once lived their lives. Learning what you need to know to do this takes a long time—in fact, it never stops. Learning new skills and ideas can be difficult, but it can be rewarding, too.

## READING

10. What does Blitz find **most** rewarding after studying artifacts from a dig?
- A sharing what he has learned with others
  - B cleaning the tools that were used
  - C finding a new artifact to study
  - D participating in another dig
11. What is an archaeologist's main concern before land is developed?
- A to protect green space
  - B to ensure that the land is safe for building
  - C to take pictures of the land before digging
  - D to locate artifacts before they are disturbed
12. As used in the passage, the word reveal means
- A hide.
  - B show.
  - C finish.
  - D reverse.

## READING

13. Why do archaeologists examine the remains of cooking fires?
- A to help develop a timeline for the people
  - B to find clues about people's eating habits
  - C to try to determine how people built fires
  - D to learn about the people's customs and beliefs
14. As used in the passage, which is the **best** definition of culture?
- A an artifact removed from the ground
  - B an area near the Mississippi River
  - C a civilization
  - D a canal
15. This passage is mostly about
- A John Blitz's life.
  - B where archaeologists dig.
  - C how to become an archaeologist.
  - D John Blitz's thoughts about archaeology.

**Turn to page 5 in your answer booklet to complete question 16.**

## READING

Read the passage about making pancakes. Then, answer the questions that follow.

### Pancake Week

“It’s a good thing you like pancakes,” Katya’s grandfather said the minute he saw his granddaughter peek into the kitchen. Today was the beginning of Maslenitsa, otherwise known as Pancake Week. Usually, Katya slept late, but this morning she was in the kitchen at the break of dawn. Katya’s grandfather had already begun cooking the pancakes, and Katya wanted to help.

Katya and her grandfather were celebrating Maslenitsa, or Pancake Week, like most people in Russia have done since ancient times. This holiday marks the beginning of spring, a time to bid farewell to winter and welcome the sunshine and warmer weather. In Russia, the arrival of spring has always been a cause for celebration. In spring, the sun brings life to the fields and overpowers the forces that have kept an icy grip on the land through the long winter months. Blini, or pancakes, are round and golden like the sun, and they have served as symbols of the sun in Russia and in many other lands.

Katya’s grandfather poured thick, creamy batter on the griddle. He had been making blini for Maslenitsa for as long as Katya could remember. Katya thought her grandfather made the best blini in the whole world. A stack of the golden cakes sat on a plate in the middle of the table, and Katya could not take her eyes off them.

“Would you like one, Katya?” her grandfather asked when he saw his

granddaughter eyeing the pancakes. “You can have a hot one right off the griddle.”

Katya beamed and nodded her head. Her grandfather flipped a large pancake onto a plate and topped the pancake with a pat of butter. The golden butter melted over the hot, round cake and made Katya think of sunlight dripping from the sky.

Katya and her grandfather sat side by side at the kitchen table. They mixed buckwheat with milk and eggs, and they carried on their tradition of baking blini together at the crack of dawn. All morning long, the sweet smell of pancakes wafted through the room. That same wonderful smell wafted through other rooms throughout the small village. In a few hours, the entire village would spring to life. People everywhere would awaken to the sound of sleigh bells and the aroma of steaming, hot blini. Those sounds and smells would last through the week and turn the sleepy village into a joyous tribute to the changing seasons.

Katya and her grandfather spent hours in the kitchen. They made stacks of blini and then wrapped them in colored packages they would take to the festival. In Katya’s village, the festival included singing and dancing and sledding and sleigh rides. Winter white horses pulled the sleighs. The horses carried festival-goers in a semicircular path across the snow, to mimic the path the sun appears to take across the sky.

Katya liked many things about Pancake Week. She liked riding in the

## READING

shimmering sleighs, and she liked singing songs about springtime and grain that grew tall. But Katya liked making blini with her grandfather best of all. Her grandfather finished wrapping the last stack of his warm, wonderful blini and tied it with a bow.

“How’s that for a morning’s work?” he asked as he looked proudly at the packages.

“Your blini are the best around,” Katya replied. “And I’m the only one who knows the secret.” Her grandfather had held on to his secret recipe for a long time before he chose to share it with Katya.

Katya and her grandfather dressed warmly and then gathered the plates

and left for the festival. As they walked through the village, sunlight poured from the sky and flickered like magic on the shimmering snow. For a while, Katya and her grandfather held hands as they walked. When Katya heard the sleigh bells, she blew her grandfather a kiss and ran on ahead.

“I’ll meet you at the square!” Katya called to her grandfather.

Grandfather blew Katya a kiss back and picked up his pace. It was the start of a week of festivity and a season of warmth, and Grandfather was just as excited as Katya to begin the celebration.

17. Maslenitsa can **best** be described as

- A a food festival.
- B a winter festival.
- C a village festival.
- D a seasonal festival.

18. What makes Katya think of sunlight dripping from the sky?

- A batter
- B pancakes
- C buckwheat
- D butter

## READING

19. According to the passage, which activity was **not** done at the festival?

- A singing songs
- B baking blini
- C sledding
- D dancing

20. Read this excerpt from the passage.

“The horses carried festivalgoers in a semicircular path across the snow.”

The prefix “semi-” helps the reader understand the word semicircular means

- A in a full circle.
- B in a half circle.
- C around a circle twice.
- D around a circle backward.

21. Based on information in the passage, another name for blini might be

- A field cakes.
- B sun cakes.
- C butter cakes.
- D winter cakes.

## READING

22. In the passage, the word mimic means to
- A follow.
  - B arrange.
  - C imitate.
  - D outline.
23. What is most likely the author's purpose in writing about Maslenitsa?
- A to persuade the reader to visit Russia
  - B to teach the reader how to make a blini
  - C to describe a Russian tradition
  - D to tell a story about a young girl



## READING

Read the passage about a family living in Barrow, Alaska. Then, answer the questions that follow.

### I Live at the Top of the World

by Tricia Brown

Robert Nageak is snacking on Doritos when his mother pulls out a plastic bag of *maktak*, the layer of skin and blubber from a bowhead whale. With her kitchen *ulu*, a U-shaped Eskimo women's knife, she slices off pieces of the raw, frozen treat. Quickly, the Doritos are forgotten.

Frozen, salted, or boiled, *maktak* is a favorite for the Nageak kids—Robert, Eva, Perry—and their parents, Ben and Bonnie. The whale meat beneath the *maktak* is equally delicious, says Bonnie, and the family especially likes it fried with onions. Other nights, she may prepare caribou, fish, or seal. Or maybe hamburgers.

The Nageaks are from Barrow, America's northernmost city, where most of the 4,300 residents are Inupiat Eskimo. It's a windswept community of log and frame buildings on a treeless landscape. No roads lead here; everybody flies in or out.

Robert, twelve, has covered the area by foot, all-terrain vehicle, and snowmachine. His favorite place is along Avuk Creek, about twenty minutes out of town, where he can watch the caribou.

"It's real pretty," Robert says. "The calves roam around the creek, and the bulls . . . man! When you see the bulls, their antlers are huge—they're like four feet across."

Snow covers Barrow from September to May, and kids slide down windblown drifts or play football if it's not too cold.

There's usually a basketball game at the school gym. The average high in February is fourteen degrees below zero and, with windchill, temperatures can reach eighty below. In winter, the sun goes down in November and doesn't return for months, but the aurora borealis occasionally colors the sky. Summer days can reach the high forties, and the Midnight Sun shines for months on end.

Despite the harsh climate, people have lived here for more than 10,000 years. Traditionally, Inupiat built semi-underground homes that were supported with whale ribs and driftwood. Wood-frame houses came with the Yankee whalers in the late 1800s.

"In Inupiaq, *iglu* means 'house,' " Robert says. "So we live in an iglu." The domed ice houses most people think of as iglus were actually just temporary shelters, he says. Robert's "iglu" is a cozy, three-bedroom home that rests on pilings, like most houses here.

"If they put the houses flat on the ground, they'd sink in the mud," he explains. Below the ground-cover roots, the soil is permanently frozen as far as 2,000 feet down. The weight of a regular foundation would cause the permafrost to melt and result in shifting.

Just down Robert's street, car-size chunks of ice still crowd the Arctic Ocean beach in late May. It may snow ten inches, then melt. The Nageaks walk on boards across the mud to their house.

## READING

Boots stay in the Arctic entry, an enclosed porch, along with *atigis*, or parkas.

“This is a hunting parka,” Robert says as he pulls a white parka over his head. It has no buttons or zippers, just his hunting knife attached at one side. The hood and cuffs are trimmed with thick fur. “There are dress parkas, for dressing up real nice and going to dances, and there’s this kind of parka—it blends in with the snow, so you’re protected or hidden from any animals.”

In the Far North, polar bears roam the coast for seals, caribou nibble on lichens, arctic foxes hunt for lemmings, wolves feed on baby caribou, and thousands of waterfowl nest in the wetlands.

Barrow’s children are learning the Inupiaq names of animals from village elders, their parents, and in a school elective that covers everything from language to skin sewing and storytelling.

“*Nigliq* means ‘goose’ and *aiviq* is ‘walrus,’ ” Robert demonstrates. “*Aġvīq* is ‘bowhead whale,’ *igniġ* is ‘fire,’ and *ugruk* is ‘bearded seal.’ ” In a pause, Eva says, “And *nanuq* means ‘polar bear.’ ”

In and out of class, the children have handled the stone lamps their ancestors used for heat and light. They’ve learned how baleen from bowhead whales was used for making utensils, lightweight sleds, and baskets.

Robert and his brother, Perry, have also learned by watching when they join the men on hunting trips. Robert prefers to scout around on land, hunting for caribou and ducks. He brags about his brother’s hunting skill on ice and water.

Even traditional games are related to hunting—springing from exercises in strength, agility, and courage. Each

winter, locals compete in games such as the one- and two-foot kick, the ear pull, and the knuckle hop.

One year, Robert won the two-foot kick by kicking a suspended ball with both feet and then landing on both feet without falling. “That was four feet, ten inches,” Robert says, holding a picture of himself in action. “I was four feet, eight inches tall.”

Suddenly, Benjamin Nageak burst in loudly, smiling and alert even though he hasn’t slept in more than twenty-four hours. The Akootchook Whaling Crew landed a spring bowhead whale last night, so today the Akootchook flag will fly above the captain’s house, signaling that shares of whale are available.

The practice of whaling and the beliefs surrounding it—respect for the animal, sharing the kill, and celebrating a whale’s gift of self—are central to the Inupiat. They believe that every creature has a spirit that must be honored and thanked when it offers itself to sustain the people.

Unlike their ancestors, the Nageaks also live in a cash economy. Ben and Bonnie both have jobs. If the village is unable to capture its quota of whales, they can go to the grocery store.

In June, Barrow will gather for *Nalukataq*, the whale-catch festival. At the beach, there’ll be feasting, dancing, and another ancient game that Robert never misses: the blanket toss. The Inupiat do it now as they’ve done for centuries.

During his turn, Robert will climb onto a large, sealskin blanket. Around it, his family and friends will be holding rope handles and chanting as they gently lift the blanket and Robert in a light

## READING

bounce. Then, with one big heave, up he'll go, ten to fifteen feet into the air, holding his breath and kicking to stay upright—just as his grandfathers did when

they were boys and their grandfathers did before them.

"I'm not afraid of falling," Robert says grinning. "I do it every year."

24. According to the passage, what is the main form of transportation to and from Barrow?

- A boats
- B snowmachines
- C all-terrain vehicles
- D airplanes

25. As used in the passage, what does the word temporary mean?

- A multi-family
- B single-story
- C short-term
- D low-cost

26. Why are houses in Barrow built without foundations?

- A They must be easy to move.
- B The ground is too hard.
- C The permafrost will thaw causing sinking.
- D They need to be partially underground.

## READING

27. Why does Benjamin Nageak smile even though he is tired?
- A The children are learning their native language.
  - B The aurora borealis is appearing in the sky.
  - C The basketball game is about to begin.
  - D The crew members are distributing portions of whale.
28. As used in the passage, the word quota means
- A target number.
  - B equal value.
  - C youngest member.
  - D senior leader.
29. What is most likely the author's purpose in writing this passage?
- A to persuade the reader to visit the Avuk Creek region
  - B to describe some traditional Alaskan whaling practices
  - C to inform the reader about the Inupiaq way of life
  - D to narrate a story about going to school in Barrow

## READING

Read the passage about the Hubble telescope. Then, answer the questions that follow.

### The Hubble Space Telescope

Astronaut John Glenn became a hero in 1962 as the first American to orbit Earth. In 1969, Neil Armstrong took “one giant leap for mankind” when he stepped onto the moon. However, scientists needed ways to collect more data from deep space. Telescopes sent into space could reflect what no astronaut could see. They could capture images of objects millions of light-years away.

In 1962, The National Academy of Sciences recommended building a space telescope. Two early satellites with telescopes went into orbit in 1968 and 1972. Despite their success, they were limited by their size. It became clear that a larger, more powerful system was needed. Until the creation of the space shuttle, there was no way to send a very large telescope into orbit.

In 1977, Congress voted to fund the construction of the Hubble Space Telescope. Work began immediately. The telescope was named for Edwin Hubble, an astronomer who discovered galaxies outside the Milky Way. In 1985, the Hubble Space Telescope was ready to go, but its launch was postponed due to the space shuttle *Challenger* disaster in 1986. Five years later, on April 24, 1990, the Hubble was launched into orbit aboard the space shuttle *Discovery*.

The Hubble telescope is a permanent space observatory. Hubble can be thought of as a spy sent out to record the secrets of the universe. It has sent to Earth many fantastic and

wondrous images of deep space. The Hubble telescope has taken pictures that have increased our understanding of the universe and how it works.

For Hubble, an orbit around Earth takes about 95 minutes. In that time, the telescope’s instruments perform many tasks. It must turn to find a new target. It also must avoid the bright light of the Sun. It changes antennae and transmission modes. It receives commands and checks its settings.

Unfortunately, the Hubble Space Telescope was not an immediate success. The early pictures Hubble sent to Earth were out of focus. NASA investigated and discovered that one edge of its giant mirror was too flat. The telescope uses its mirror to collect and focus light from distant objects. Because the mirror could not be fixed, special equipment was added to correct the problem. The solution was similar to adding prescription lenses to correct blurry vision.

The telescope sometimes requires other types of repairs. It was designed so that astronauts could replace parts and make repairs easily in space. In February 1997, additional repairs and updates were performed. Astronauts installed some new instruments. They also added insulating material to protect the telescope from the extreme cold of space.

Despite the need for occasional repairs, the telescope still provides the world with amazing views. Clouds of

## READING

dust and gas, faraway galaxies, and distant stars have all been photographed by Hubble. Several of these sightings came close together. In June 1994, NASA released important images that Hubble had sent. The images of the Orion Nebula showed that planets can form around stars outside our solar system. Nebulae are clouds of dust or gas that usually form a round shape. The next year, images of the Eagle Nebula showed stars being born. A few months later, in January 1996, Hubble did what seemed impossible. It sent NASA pictures called the “Deep Field” images. Using time-lapse photography, these images show about 1,500 galaxies in different stages of development. This gave astronomers the first clear look at galaxies in the midst of formation.

Hubble is also providing images that challenge current theories about space. Scientists use its data to broaden their understanding of astronomy. In February 2001, Hubble sent images of the “ant nebula” to scientists on Earth. The ant nebula looks like two stretched-out circles, similar to the shape of an ant’s body. Astronomers have created several theories to explain the unusual shape. But

whatever the reason, the Hubble telescope is helping scientists understand the universe by increasing their knowledge.

In 2002, Hubble found evidence of the existence of black holes in space. A black hole is a formation in space that draws in all kinds of energy, including light. Hubble’s information may be the key to understanding these formations.

The Hubble Space Telescope got an assistant in 2003. NASA’s Spitzer Space Telescope was put into orbit around Earth. Scientists use Hubble and Spitzer together. They can take the data from one telescope and compare it with data from the other. In this way, they can create a more complete image of objects in deep space.

The Hubble has allowed people to see beyond the limits of Earth and beyond their greatest dreams. It has changed how we look at space forever. Astronomers have used the telescope to see pictures that defy imagination. As technology improves, understanding of the universe will only increase. The Hubble Space Telescope has prepared the way for generations of space telescopes to come.

## READING

30. Read this sentence from the passage.

“In 1977, Congress voted to fund the construction of the Hubble Space Telescope.”

Which is a synonym for the word “fund”?

- A forecast
- B finance
- C funnel
- D foster

31. According to the passage, why were the early pictures from Hubble unclear?

- A It needed to change its transmission mode.
- B It needed to use time-lapse photography.
- C Its giant mirror was made incorrectly.
- D Its lenses were positioned too close together.

32. Why was it necessary to insulate the Hubble Space Telescope?

- A Cold could damage the telescope.
- B New instruments were needed.
- C The antennae could not be turned.
- D Repairs could not be made.

## READING

33. According to the passage, what have scientists learned by looking at images from Hubble?
- A Pictures of galaxies in various stages of development were captured.
  - B The existence of black holes cannot be proven.
  - C Planets cannot form outside our solar system.
  - D Most nebulae are shaped similar to ants.
34. How does the Hubble Space Telescope work with the Spitzer Space Telescope?
- A Scientists compare the telescopes' data to create a more complete image.
  - B Astronauts can work on one telescope as the other telescope gathers information.
  - C One telescope captures light from stars while the other telescope checks settings.
  - D The instruments of both telescopes record different features of the same object.
35. Which word from the passage **best** completes the analogy?
- pages : book :: stars : \_\_\_\_\_
- A satellite
  - B moon
  - C galaxy
  - D clouds



## READING

36. What does the author most likely want the reader to understand about the Hubble Space Telescope?
- A It faces many difficulties on a daily basis.
  - B It is superior to other viewing devices.
  - C It is a critical tool in learning about space.
  - D It serves as a permanent space observatory.
37. The author's purpose in writing this passage is most likely to
- A convince the reader that astronomy is a science for all to study.
  - B present facts and information about equipment that circles Earth.
  - C explain how astronauts build telescopes in space.
  - D persuade the reader to learn more about the universe.

## READING

Read the poem. Then, answer the questions that follow.

### A Winter's Eve

by Tess Thompson

The dog strains forward  
on his leash, eager  
to be home.  
The wind blows through me  
despite my coat. I shiver,  
my teeth chattering their own Morse code.

From the hill I see  
the smouldering remains of a sunset,  
blue-gray clouds above  
a strip of pink.  
Clouds of wraithlike smoke  
billow from chimneys, whipped away,  
like my breath, by the wind.

Dead leaves, stiff and crumpled  
blow across the grass  
a star (perhaps a planet)  
glows  
over the dark bulk  
of the mountain.

The dog whines softly,  
begging me to hurry.  
But I linger on the hillside,  
walking with dreamlike steps,  
watching porch lights blink on  
one by one.

## READING

38. Based on the poem, why does the dog most likely pull on the leash?
- A It is eager for more exercise.
  - B It is anxious to get out of the cold.
  - C It is tired from walking.
  - D It is excited about chasing leaves.
39. Which is a synonym for the word “smouldering” as it is used in the poem?
- A glowing
  - B cloudy
  - C unpleasant
  - D lofty
40. What does the speaker experience in the last stanza of the poem?
- A feeling the tug of the leash
  - B feeling the wind blow
  - C seeing the planet glow
  - D seeing the porch lights turn on

## READING

41. Which **best** describes how the speaker feels about the winter evening?

- A amused
- B bothered
- C enchanted
- D fatigued

42. Which theme does the poem **best** illustrate?

- A Life consists of cycles that repeat themselves.
- B Animals are good companions.
- C Winter evenings are a time to be alone.
- D Happiness comes from appreciating the simple things.

**Turn to page 7 in your answer booklet to complete question 43.**

## READING

Read the passage about a famous pilot. Then, answer the questions that follow.

### Fly High, Bessie Coleman

by Jane Sutcliffe

Two thousand people sat with their faces turned to the sky. High above the airfield, a pilot had just finished carving a crisp figure eight in the air. Suddenly, the plane seemed to stumble. Twisting and turning, it began to fall from the sky. The crowd watched in horror. Had something happened to the pilot?

But the woman in the cockpit of the plane on October 15, 1922, was in perfect control. Only two hundred feet above the ground she straightened out the tumbling aircraft and soared back into the sky. By the time she landed her plane, the crowd was on its feet, roaring with delight. Everyone cheered for Bessie Coleman, the first licensed black pilot in the world.

#### Growing Up

Bessie Coleman was born on January 26, 1892. She was a bright girl and a star pupil in school. In Waxahachie, Texas, where Bessie grew up, black children and white children attended different schools. Each year Bessie's school closed for months at a time. Instead of studying, the children joined their parents picking cotton on big plantations. Bessie's mother was proud of her daughter's sharp mind. She didn't want Bessie to spend her life picking cotton, and urged her to do something special with her life.

#### Learning to Fly

In 1915, when she was 23, Bessie Coleman moved to Chicago. She found a job as a manicurist in a men's barbershop. Coleman loved her job and the interesting

people she met there. After the United States entered World War I in 1917, soldiers returning from the war often came to the shop. Coleman was fascinated by their stories of daredevil pilots. She read everything she could about airplanes and flying. She later recalled, "All the articles I read finally convinced me I should be up there flying and not just reading about it."

Bessie Coleman asked some of Chicago's pilots for lessons. They refused. No one thought that an African American woman could learn to fly.

In desperation, Coleman asked Robert Abbott for help. Abbott owned Chicago's African American newspaper, *The Chicago Defender*. He had often promised to help members of the black community with their problems. Abbott told Coleman to forget about learning to fly in the United States. Go to France, he said to her, where no one would care if her skin was black or white.

So she did. First Coleman learned to speak French. Then she applied to a French flying school and was accepted. On November 20, 1920, Coleman sailed for France, where she spent the next seven months taking flying lessons. She learned to fly straight and level and to turn and bank the plane. She practiced making perfect landings. On a second trip to Europe, she spent months mastering rolls, loops, and spins. These were the tricks she would need if she planned to make her living as a performing pilot.

## READING

### Performing in Air Shows

Coleman returned to the United States in the summer of 1922. Wherever she performed, other African Americans wanted to know where they, too, could learn to fly. It was a question that made Coleman sad. She hoped that she could make enough money from her air shows to buy her own plane. Then she could open a school so everyone would have a chance to feel the freedom she felt in the sky.

By early 1923, Coleman was close to her goal. She had saved her money and bought a plane. Then, as she was flying to an air show in California, her engine stalled. The brand-new plane crashed to the ground.

Coleman suffered a broken leg and three broken ribs. Still, she refused to quit. “Tell them all that as soon as I can walk I’m going to fly!” she wrote to friends and fans.

Many people, both black and white, were very impressed by Coleman’s determination. A white businessman helped her buy another plane. By 1926, Coleman was back where she had been

before the crash. She wrote to her sister, “I am right on the threshold of opening a school.”

That spring, Bessie Coleman was invited to perform in Jacksonville, Florida. Early on the morning of April 30, 1926, Coleman and another pilot took off for a short flight around the air show field. At first everything went smoothly. Then a wrench that had been lying loose in the plane slid into the control gears, jamming them. Suddenly, the plane flipped upside down. Coleman had not strapped herself in, and she fell to the ground. Moments later, the plane crashed, killing the other pilot.

At 34, Bessie Coleman was dead, but her dream survived. In 1929, three years after her death, the Bessie Coleman Aero Clubs were formed. The clubs encouraged and trained African American pilots—just as Coleman had hoped to do. In 1931, the clubs sponsored the first all-African American air show. Bessie Coleman would have been proud.

44. Which event **most** influenced Bessie’s decision to become a pilot?

- A working as a manicurist
- B talking with a businessman
- C listening to soldiers’ stories
- D picking cotton on plantations

## READING

45. Which word from the passage completes this analogy?

boat : floated :: airplane : \_\_\_\_\_

- A soared
- B crashed
- C practiced
- D impressed

46. Which conclusion can you draw about Bessie Coleman's life?

- A She accomplished all of her professional goals.
- B She strived to earn money to support her family.
- C She inspired African Americans to become pilots.
- D She accepted the limits set for African Americans.

## READING

47. Which accomplishment made Bessie Coleman unique?
- A She was the first person to fly across the ocean.
  - B She was the first woman to open a flying school.
  - C She was the first licensed black pilot in the world.
  - D She was the first licensed female pilot in the nation.
48. Which feature makes this passage nonfiction?
- A It includes facts.
  - B It includes suspense.
  - C It spans several decades.
  - D It ends with a tragic event.



## READING

Read the passage about a special type of light. Then, answer the questions that follow.

### Fired Up Over Night Lights

National Geographic World

You're munching popcorn in a dark movie theater when suddenly the houselights come up. The film you were watching seems to vanish before your eyes. Did the projector stop? No, the brightness of the lights is simply drowning out the image on the screen.

The brightness caused by thousands of electric lights in a city causes the same thing to happen each night in the sky. On a moonless night we should see more than 2,500 stars and planets. Instead, many of us see no more than 100. The rest are erased by skyglow, an aura of brightness in the sky caused mainly by streetlights and lights from businesses.

Skyglow is a type of light pollution—artificial lighting that harms wildlife or hurts our quality of life. Skyglow is just part of the problem. Glare from stores' lights and billboards sometimes blinds drivers. And when one person's light shines into a neighbor's window, the effect is called light trespass.

What causes light pollution? Overly bright lights that spray light upward and sideways. The International Dark-Sky Association believes that light pollution squanders energy worth a billion dollars each year. This energy need may contribute to global warming, the gradual rise in Earth's temperature.

But the environmental impact of light pollution is felt most directly by wild animals such as sea turtles and birds.

They have become accidental victims of humans' desire to light up the night.

#### Sea Turtles

The moon is a baby sea turtle's best friend. Its light reflects off the ocean, guiding turtles from the beaches where they hatch to their home under the waves.

Unfortunately the bright lights along many beaches make turtles see "moonlight" everywhere. "They get confused about where they're supposed to go, so they go inland where they have to deal with humans and traffic," says Danielle Nangle, 14, a volunteer at the Florida Oceanographic Society in Stuart, Florida. On land, the turtles also face predators like raccoons and fire ants. Five species of sea turtles can be found in Florida's waters, and four of them—the green turtle, leatherback, hawksbill, and Kemp's ridley—are endangered. So each death lessens the species' chance for survival.

Florida now has local laws that restrict lighting along beaches to protect the hatching turtles. But some homeowners still equate bright lights with increased security. Marine biologist Blair Witherington says most people don't realize that visibility is better with a well-aimed dim light than a bright one that just spews light. "We can make life safer *and* more pleasant, and maybe even save money on electricity, while we protect sea turtles," he says.

## READING

### Migratory Birds

On January 22, 1998, people in Syracuse, Kansas, faced a terrible sight. More than 5,000 songbirds lay dead nearby. The night before, a flock of migrating birds had crashed into three communication towers and a natural gas facility. Why? Because of lights.

Most structures over 200 feet high are required to have lights on top to warn airplane and helicopter pilots. These and other high-rise lights confuse migrating birds on cloudy or foggy nights when it's harder for them to use the hidden moon and stars to navigate. So some brightly lit structures, like the Willis Tower in Chicago, Illinois, are at least turning off ornamental lights during migration season.

Millions of birds die each year hitting towers, skyscrapers, smokestacks, lighthouses, and even ships. Many migrating species are already endangered or threatened.

Experts are still working on how to make tall structures safe for pilots *and* birds. One thing is clear: The taller and more brightly lit a structure is, the more birds it will kill. "The best solution is to control the light being wasted," says Michael Mesure of Canada's Fatal Light Awareness Program.

### Puffins

Scientists believe that baby puffins, like sea turtles, follow the moonlight reflected off the sea. And like turtles, puffins often go the wrong way because lights on shore confuse them. But birds living on an island off Iceland's southwestern coast have a unique rescue squad: the puffin posse of Heimaey.

Every August kids on Heimaey get to stay up past midnight hunting for puffins that have lost their way. The young seabirds leave their nests that month. Without help, those that glide into town would fall prey to cats, dogs, cars, and other perils.

The captured puffins are taken to the ocean the next morning and released. Because of their undeveloped wings, the pufflings need help getting airborne. "You take them under their wings," says Kasha Wlaszczyk, 12. "Next you swing them up and down about three times, till they're flapping their wings. And then you throw them away real fast, and they just fly."

The freed birds spend most of their lives roaming the northern Atlantic Ocean. "It feels really great," says Kasha, "like you've saved somebody's life."

## READING

49. Why are some homeowners reluctant to turn off bright lights?
- A They want airplanes to see the lights.
  - B They are concerned for the turtles.
  - C They want to save migrating birds.
  - D They have personal safety concerns.
50. What does the phrase “a bright one that just spews light” mean?
- A The light is moving.
  - B The light is being wasted.
  - C The light is flashing.
  - D The light is concentrated.
51. What caused problems for the songbirds that migrated through Kansas in 1998?
- A the full moon
  - B the billboard lights
  - C the pilots of airplanes and helicopters
  - D the lights on tall structures

## READING

52. After the puffins are captured, the rescuers
- A direct the puffins back to their colony.
  - B take the puffins to the ocean and release them.
  - C guard the puffins until they are able to fly.
  - D wait for the full moon to guide the puffins.
53. When releasing a captured baby puffin, what step comes immediately following holding the puffin under its wings?
- A swinging the puffin three times
  - B shining a light toward the water to guide the puffin
  - C tossing the puffin high into the air
  - D carrying the puffin to the water

## READING

54. What do sea turtles, migrating birds, and puffins all have in common?
- A All rely on the moon for navigation.
  - B All are in danger of becoming extinct.
  - C All are confused by shoreline lighting.
  - D All are affected by lights meant for pilots.
55. Which would be the **best** alternate title for the passage?
- A “A Puffin Rescuer’s Ultimate Goals”
  - B “Saving Endangered Animals in America”
  - C “The Greatest Dangers of Light Pollution”
  - D “Canada’s Fatal Light Awareness Program”

**END SESSION**



## WRITING

### WRITING—SAMPLE QUESTIONS

#### Directions

Read Sample Question A and mark your answer on page 11 in your practice test answer booklet. Fill in the circle that goes with the answer you choose. Be sure to fill in the circle completely and make your mark heavy and dark. If you want to change your answer, completely erase the mark you made before making a new mark. For Sample B, write your answer on the lines provided on page 11 in your practice test answer booklet.

#### Sample A

Read the paragraph.

<sup>1</sup> I like the sound of birds in the morning. <sup>2</sup> sometimes I sit outside and watch the cardinals as they fly back and forth <sup>3</sup> I like the little birds the best.

Choose the correct way to write Sentence 2.

- A Sometimes I sit outside and watch the cardinals as they fly back and forth.
- B sometimes I sit outside and watch the cardinals as they fly back and forth.
- C Sometimes I sit outside and watch the cardinals as they fly back and forth
- D sometimes I sit outside and watch the Cardinals as they fly back and forth

## WRITING

### **Sample B**

Turn to page 11 in your answer booklet to complete Sample B.



## WRITING

Read the report. It has mistakes that need to be corrected. Use the report to answer questions 1 through 4.

**1** At first glance, the thorny lizard resembles a miniature dinosaur left over from the Jurassic Era. **2** This lizard lives in the desert of Australia and is covered completely with sharp, spiny thorns. **3** This covering helps the lizard survive in a habitat where temperatures can rise into the hundreds. **4** In the morning, dew drops collect on the spiny thorns, and then the grooves in the skin allow the water to trickle down toward the lizards mouth. **5** The sharp spines also provide protection from any predators that might try to snag the lizard for lunch.

**6** The thorny lizard does not have variety in its diet. **7** It eats ants and nothing else. **8** The lizard will set along a dusty, dry trail and wait patiently for troops of ants to cross its path. **9** Once the lizard spots these passersby, they will quickly stick out its tongue and grab a mouthful of these tasty insect treats.

1. What change should be made in Sentence 4?

- A Change drops to drop's.
- B Change thorns to thorn's.
- C Change grooves to groove's.
- D Change lizards to lizard's.



## WRITING

2. Choose the **correct** way to write Sentence 8.
- A The lizard will set along a dusty, dry trail and wait patiently for troops of ants to cross its path.
  - B The lizard will set along a dusty, dry trail and weights patiently for troops of ants to cross its path.
  - C The lizard will sit along a dusty, dry trail and wait patiently for troops of ants to cross its path.
  - D It is correct as is.
3. Which change should be made in Sentence 9?
- A Change spots to spot.
  - B Change they to it.
  - C Change quickly to quick.
  - D It is correct as is.
4. Which detail would **most** logically follow Sentence 9?
- A The thorny lizard repeats its patient watch for ants day after day.
  - B The ants have no protective armor like the lizard, so they are easy prey.
  - C Even though the ants are extremely strong for their size, they cannot escape the thorny lizards.
  - D A meal of ants may not sound appetizing to humans, but the thorny lizard eats plenty of them.

## WRITING

For questions 5 through 10, mark your answers in the answer booklet.

5. Read the following paragraph.

The early Japanese obtained their food in several different ways. They started off by hunting and fishing to get their food. They also grew rice. They learned this skill from the Chinese.

How could this paragraph be improved?

- A Combine the first two sentences into one.
  - B Delete the first sentence.
  - C Delete the second sentence.
  - D Combine the last two sentences into one.
- 

6. Read the sentences.

The jet disappeared into the clouds.

A thin, white line trailed the jet.

The line was still visible when the aircraft disappeared.

Choose the **best** way to combine these sentences.

- A A trailing visible line was white and thin and could be seen when the jet disappeared into the clouds.
- B The jet had a thin, white line which was visible after the aircraft disappeared into the clouds.
- C A thin, white line trailing the jet was still visible when the aircraft disappeared into the clouds.
- D A thin, white line trailing the jet, it could be seen after the aircraft disappeared into the clouds.

## WRITING

7. Read the following.

The main character, Skye Davis, was not very interesting. \_\_\_\_\_, her best friend was the funniest and most interesting character in the book.

In a book report, Lisa is comparing two characters. Choose the **best** transition to add to the sentence.

- A Also
  - B On the other hand
  - C For example
  - D To be exact
- 

8. Which sentence has an error?

- A After you leave the movie stop by the grocery store.
  - B Pick up the package at the post office near the bank.
  - C Planes fly over the mountains to land on the airstrip.
  - D The car needs to be moved next to the tree by the shed.
- 

9. Which would **most likely** be included in a business letter?

- A asking someone to attend a party
- B complaining about poor service
- C discussing interesting hobbies
- D thanking someone for a gift

## WRITING

10. Read the sentences. They are out of order.

**1** Mariella is conducting an investigation on plants. **2** At the end of the investigation, the plant that received water is healthy, and the other one has yellow leaves. **3** Then she places one tomato plant in each pot and covers its roots with soil. **4** She gets two pots and fills them halfway with soil. **5** She waters one plant every morning and does not water the other plant at all.

If the sentences were put in the correct order, which sentence would be the **last** sentence?

- A Sentence 1
- B Sentence 2
- C Sentence 3
- D Sentence 4

Turn to page 12 in your answer booklet to complete question 11.

## WRITING

Read the letter. It has mistakes that need to be corrected. Use the letter to answer questions 12 through 16.

**1** Dear Mr. Foster,

**2** I want to thank you for taking our class on a tour of the Imaginarium last week. **3** I really liked the life-sized *Tyrannosaurus rex*. **4** Seeing it in person made me greatful that I didn't live during the Jurassic Era. **5** I had no idea that *T. rex* grows to be 10 feet tall and 25 feet long and had a mouthful of 6-inch teeth that resembled sharp miniature swords. **6** I sure would run fast if I saw that thing coming! **7** My mom and dad have agreed to take our whole family to the Imaginarium. **8** My brother will love climbing into the Bubble Lab's giant bubble. **9** My sister will be fascinated by the Discovery Cove's marine animals. **10** I'm sure my parent's will spend hours touring the physics and flight exhibits.

**11** Thanks again for spending time with us. **12** The tour taught me that I'd like to learn more about Science and maybe even be a Scientist when I grow up.

Sincerely,

Alexi Margulies

12. Which word is spelled incorrectly in the letter?

- A greatful in Sentence 4
- B mouthful in Sentence 5
- C swords in Sentence 5
- D fascinated in Sentence 9

## WRITING

13. Paragraph 1 should be divided into two paragraphs. Which sentence should begin a new paragraph?
- A Sentence 5
  - B Sentence 6
  - C Sentence 7
  - D Sentence 9
14. Which should replace grows in Sentence 5?
- A grew
  - B has grown
  - C will have grown
  - D will be growing
15. Which change would make Sentence 10 correct?
- A Change parent's to parents.
  - B Change hours to hours'.
  - C Change physics to physics'.
  - D Change exhibits to exhibit's.
16. Choose the correct way to write Sentence 12.
- A The tour taught me that I'd like to learn more about Science and maybe even be a scientist when I grow up.
  - B The tour taught me that I'd like to learn more about science and maybe even be a scientist when I grow up.
  - C The tour taught me that I'd like to learn more about science and maybe even be a Scientist when I grow up.
  - D It is correct as is.

**Turn to page 14 in your answer booklet to complete question 17.**

## WRITING

Read the story. It has mistakes that need to be corrected. Use the story to answer questions 18 through 21.

**1** I awoke abruptly that morning, certain that something was wrong.  
**2** For a moment I could not remember where I was or what the problem could be, but suddenly I knew. **3** The narrow bed next to mine was empty, the covers were threw back, and small plaid pajamas lay in a heap on the floor. **4** Annie had gone exploring again. **5** I put on my clothes and jacket and ran for the door. **6** As I had thought, Annie's boots were missing.  
**7** The boots were new last year. **8** Tiny but fearless, my sister has a fondness for exploring new places, and it was my responsibility to watch her during our visit with friends.  
**9** A row of small boot prints led toward a small stand of pines.  
**10** Now the boot prints were rapidly filling with downy snowflakes.  
**11** I hurried in that direction, calling Annie's name. **12** To my relief, I soon heard a faint call of "Sara!" in response.  
**13** I sighed; keeping up with Annie was like following a whirlwind.  
**14** This time I would convince her to take me on her next adventure.

18. The writer wants to divide Paragraph 1 into two paragraphs. Which sentence would begin a new paragraph?
- A Sentence 2
  - B Sentence 3
  - C Sentence 5
  - D Sentence 8

## WRITING

19. Choose the **best** way to combine Sentences 9 and 10.
- A A row of small boot prints was now rapidly filling with downy snowflakes toward a small stand of pines.
  - B A row of small boot prints, now rapidly filling with downy snowflakes, led toward a small stand of pines.
  - C A row of small boot prints led toward a small stand of pines rapidly filling with snowflakes.
  - D A row of small boot prints led toward a small stand of pines, now the boot prints were rapidly filling with downy snowflakes.
20. Which word in Sentence 3 is **not** used correctly?
- A to
  - B mine
  - C threw
  - D lay
21. Which sentence does **not** belong in the story?
- A Sentence 4
  - B Sentence 6
  - C Sentence 7
  - D Sentence 12



## WRITING

For questions 22 through 28, mark your answers in the answer booklet.

22. Dustin is writing a report for his science class. Which sentence **best** fits in Dustin's report?

A James and I got four rocks and were looking at them for calcite.  
B My buddy and I did this thing about calcite in rocks.  
C My buddy and I smashed a lot of rocks to see if they had calcite in them.  
D James and I analyzed four rocks to see if they contained calcite.

---

23. Read the sentence.

The clock was ticking, and I was still on the first page.

Which detail **best** supports the sentence?

A Sometimes I wonder why people are so concerned about time.  
B I knew that I needed to work faster to finish the math test.  
C Some clocks have very loud ticking sounds that can be annoying.  
D Time is something that has always concerned me.

---

24. Read the sentences.

Los Angeles County is in California.

It is one of the largest counties in the United States.

More than 9 million people live there.

Choose the **best** way to combine these sentences.

A Los Angeles County is in California, and it is one of the largest counties in the United States with more than 9 million people who live there.  
B The United States has more than 9 million people living in Los Angeles County, California, one of the largest counties.  
C With more than 9 million people, Los Angeles County, one of the largest counties, is in California in the United States.  
D Los Angeles County, California, is one of the largest counties in the United States with a population of more than 9 million people.

## WRITING

25. Allie is writing a report about Henry Ford's Model T. Choose the **best** sentence to conclude her report.

- A Also, being a reliable and affordably priced automobile, the consumers could purchase the automobile.
- B Finally, consumers could purchase an automobile that was reliable and affordably priced.
- C In addition, an automobile was reliable, and consumers could affordably purchase it.
- D For consumers an automobile that was reliable and affordably priced could be purchased.

---

26. Nick is writing a report stating his opinion of video games in the cafeteria. Read his outline.

- I. **Thesis:** Video games should not be allowed in the cafeteria.
- II. There would be more chaos in the lunchroom.
- III. Students would play games instead of eating.
- IV. The school administration would have more work.
- V. The games would cost too much money.
- VI. **Conclusion:**

Which is the **best** conclusion?

- A Some students spend at least five dollars a day playing video games.
- B Video games do not help students learn better.
- C The money could be put to better use.
- D Allowing video games in the cafeteria is a poor idea.

---

27. Which sentence is written correctly?

- A If you want to find a great place to go camping, try the Arizona desert.
- B If you want to find a great place, to go camping, try the Arizona desert.
- C If you want to find a great place to go camping try the, Arizona desert.
- D If you want to find, a great place to go camping, try the Arizona desert.

## WRITING

28. Gabriel wants to write a letter to the school board expressing his concerns about students who throw their trash on school property.

Which voice would be **best** for his letter?

- A informal
- B technical
- C formal
- D humorous

Turn to page 16 in your answer booklet to complete question 29.

## WRITING

Read the passage. It has mistakes that need to be corrected. Use the passage to answer questions 30 through 33.

**1** In the book Swiss Family Robinson, the members of a family are shipwrecked on a deserted island. **2** To survive, they build a home in a tree, where they live until they are rescued. **3** Although many people have played in tree houses as children, using one for other reasons seems to belong only in a book or a movie. **4** Today, however, tree houses have an increasing appeal to a broader audience.

**5** From Alaska to Florida, Americans have been building tree houses that range from single rooms to complete homes. **6** Some of them is designed as inns for visitors who long to stay in an unusual place. **7** Others have been built next to a home to serve as a home office or a special room for entertaining. **8** In England a tree house restaurant serving 120 people is being built. **9** It will be built among sixteen fruit trees.

**10** The use of tree houses has come a long way since the days of Swiss Family Robinson. **11** Many people have dreamed about living among the leafy branches of a tree. **12** Now everyone can make that dream a reality.

30. Choose the **best** sentence to include in the passage.

- A Some tree houses are built from materials found at a construction site, such as dead tree limbs.
- B Huge old trees with branches that grow at ninety-degree angles provide ideal support.
- C Tree houses can be affected by strong wind, heavy rain, and temperature fluctuations.
- D In Takilma, Oregon, guests can sleep in a fully equipped tree house more than thirty feet above the ground.

## WRITING

31. Which word is **not** spelled correctly?

- A desserted in Sentence 1
- B rescued in Sentence 2
- C appeal in Sentence 4
- D restaurant in Sentence 8

32. Which change is needed to correct Sentence 6?

- A Change is to are.
- B Change inns to inns'.
- C Change visitors to visitor's.
- D Change who to whose.

33. Choose the correct way to combine Sentences 8 and 9.

- A In England a tree house restaurant, serving 120 people, is being built, which will be built among sixteen fruit trees.
- B In England a tree house restaurant that will serve 120 people is being built among sixteen fruit trees.
- C A tree house restaurant in England will serve 120 people, it is being built among sixteen fruit trees.
- D A tree house restaurant in England will be built among fruit trees, and it is being built to serve 120 people.

## WRITING

For questions 34 through 38, mark your answers in the answer booklet.

34. Which of the following has an error in sentence structure?

- A Tara closed the door, dropped her books on the floor, and began her experiment.
  - B Although Vincent did not want to, he still rose at dawn to help his little brother.
  - C Because of increased enrollment, we had to build a new middle school.
  - D The students like English class the best, they do original writing projects.
- 

35. Read the sentences.

The rainstorm was violent. The rainstorm beat down on the tin roof violently.

Choose the **best** way to combine the sentences into one.

- A The violent rainstorm beat down on the tin roof.
  - B Violently, the rainstorm on the tin roof beat down.
  - C The rainstorm, violently on the tin roof, beat down.
  - D Being violent, the rainstorm beat down on the tin roof.
- 

36. Which is the **best** conclusion for a paragraph telling how to bake a cake?

- A Gather all ingredients for decorating the cake.
- B When the cake is cool, carefully decorate it with the icing.
- C Do not open the oven door while the cake is baking because it could flatten.
- D Thoroughly mix the ingredients in a bowl.

## WRITING

37. Which sentence belongs in an informal letter?

- A It's been a long time since I've written, and I hope you are okay.
  - B Please excuse me for not writing sooner, but I have been quite busy.
  - C I am writing today to offer words of congratulations on your new home.
  - D The reason for my letter is that I wish to inquire about how you are.
- 

38. Read the sentences.

It was in the dark of night. I saw the glimmer of the moon.

Choose the **best** way to combine the sentences.

- A In the dark of night, I saw the glimmer of the moon.
- B It was in the dark of night, I saw the glimmer of the moon.
- C The glimmer of the moon was in the dark of night.
- D Because I saw the glimmer of the moon, it was in the dark of night.

## WRITING

Read the passage. It has mistakes that need to be corrected. Use the passage to answer questions 39 through 42.

**1** On April 27, 2005, John Fitzpatrick, an ornithologist (one who studies birds) at Cornell University, announced that an ivory-billed woodpecker had been discovered in eastern Arkansas. **2** The woodpecker was living in the Rural wilderness area known as The Big Woods. **3** What is so special about seeing an ivory-billed woodpecker? **4** Well, consider this: The last time anyone saw an ivory-billed woodpecker was 1944. **5** For over sixty years this bird was thought to be extinct. **6** Many birds are easy to identify by their size and color. **7** Although there have been a number of unofficial sightings over the past few years, only Fitzpatrick and his research team managed to capture the rare bird on film. **8** The researchers also believe there is other ivory-billed woodpeckers living in the area.

39. Choose the **best** topic sentence for the passage.

- A Some birds are more difficult to find because their features are less distinct.
- B Spring migration attracts bird watchers to seek new bird sightings in their areas.
- C Bird watchers are hailing it as one of the greatest bird sightings of all time.
- D Some argue that Fitzpatrick merely found a very common bird, the pileated woodpecker.



## WRITING

40. Which word has an error in capitalization?
- A ornithologist in Sentence 1
  - B eastern in Sentence 1
  - C Rural in Sentence 2
  - D Big in Sentence 2
41. Which **best** describes Sentence 6?
- A It repeats information and should be removed.
  - B It does not support the topic and should be removed.
  - C It is out of sequence and should be placed after Sentence 3.
  - D It is out of sequence and should be placed after Sentence 7.
42. The passage was **most likely** written to
- A inform.
  - B compare.
  - C describe.
  - D persuade.

Turn to page 20 in your answer booklet to complete question 43.

## WRITING

For questions 44 through 46, mark your answers in the answer booklet.

44. Read the paragraph.

**1** Vanessa was excited to go to the amusement park and ride the new rollercoaster. **2** After standing in line for a long time, she finally got her chance. **3** She hopped in the first car and pulled down the safety bar. **4** It slowly crept up the first high hill before flying into the other turns, hills, and loops. **5** Finally, the coaster screeched to a stop in the exact same place where it had started.

Read the sentence.

Then the coaster took off.

Where does the sentence **best** fit in the paragraph?

- A after Sentence 3
- B after Sentence 4
- C after Sentence 5
- D It is correct as is.

---

45. Which style of writing is **most** appropriate for a letter to a business asking for product information?

- A persuasive
- B technical
- C descriptive
- D formal

## WRITING

46. Greg is writing a report on Susan B. Anthony. Read his outline.

- I. **Thesis:** Susan B. Anthony should be in the Women's Hall of Fame.
- II. She helped with the temperance movement.
- III. She worked on anti-slavery campaigns.
- IV. She helped women get more rights.
- V. **Conclusion:**

Which would be the **best** conclusion to add to his outline?

- A Susan B. Anthony had five brothers and sisters.
- B Susan B. Anthony started teaching before she was 16 years old.
- C Susan B. Anthony was born in Massachusetts in February 1820.
- D Susan B. Anthony should be honored for her role in U.S. history.

## WRITING

Read the passage. It has mistakes that need to be corrected. Use the passage to answer questions 47 through 50.

**1** Robots have been a part of science fiction for many years. **2** We have read about them in novels and have seen them on television and in the movies. **3** Today robots are becoming more a part of everyday life.

**4** Recent advertisements show small round robots that clean floors without human assistance. **5** Psychologists are also studying the effects of having robotic pets.

**6** Robots sometimes do jobs that are too dangerous for people. **7** Most people do not like to do dangerous jobs. **8** One example is the Rover Sojourner a roving robotic vehicle that was sent to Mars. **9** This vehicle, which is controlled by an Earth-based operator, can travel to places that would not be safe for humans. **10** The United States Congress wants thirty percent of all Military vehicles to be robotic by 2015.

**11** Robots are no longer found just in science fiction. **12** They have gradually moved into the real world.

47. The writer intended this passage to be

- A a description of a personal experience using a robot.
- B an explanation of the increased use of robots today.
- C a description of how robots are made and sold.
- D an explanation of how dangerous robots have become.

## WRITING

48. Which sentence should be removed from the passage?
- A Sentence 4
- B Sentence 6
- C Sentence 7
- D Sentence 9
49. Choose the correct way to punctuate Sentence 8.
- A One example, is the Rover Sojourner, a roving robotic vehicle that was sent to Mars.
- B One example is the Rover Sojourner, a roving robotic vehicle that was sent to Mars.
- C One example is the Rover Sojourner, a roving robotic vehicle, that was sent to Mars.
- D It is correct as is.
50. Which part of Sentence 10 has an error?
- The United States Congress wants thirty percent of all Military  
1 2 3  
vehicles to be robotic by 2015.  
4
- A Part 1
- B Part 2
- C Part 3
- D Part 4

The United States Congress    wants thirty percent    of all Military  
                1                                 2                                 3  
vehicles to be robotic by 2015.  
                4

A	Part 1
B	Part 2
C	Part 3
D	Part 4

## END SESSION



## MATHEMATICS

### MATHEMATICS—SAMPLE QUESTIONS

#### Directions

Read Sample Question A and mark your answer on page 22 in your practice test answer booklet. Fill in the circle that goes with the answer you choose. Be sure to fill in the circle completely and make your mark heavy and dark. If you want to change your answer, completely erase the mark you made before making a new mark. For Sample B, write your answer on the lines provided on page 22 of your practice test answer booklet.

#### Sample A

The list below shows the number of dictionaries a bookstore sold each day for five days.

11, 5, 8, 11, 10

What is the mode of the number of dictionaries sold during the five days?

- A 8 dictionaries
- B 9 dictionaries
- C 10 dictionaries
- D 11 dictionaries

## MATHEMATICS

### **Sample B**

Turn to page 22 in your answer booklet to complete Sample B.



## MATHEMATICS

You may use the Mathematics Reference Sheet any time during the test.

1. Edison Elementary School has 823 students, Jefferson Middle School has 684 students, and Lincoln High School has 1,228 students. What is the **best** estimate, to the nearest hundred, of the total number of students at the three schools?

A 2,500 students  
B 2,600 students  
C 2,700 students  
D 2,900 students

---

2. An astronomer in Morocco spots a solar flare at 4 PM Morocco time. An astronomer in Texas spots the same solar flare. It is 5 hours earlier in Texas. What time was the solar flare spotted in Texas?

A 10:00 AM  
B 11:00 AM  
C 1:00 PM  
D 9:00 PM

---

3. Jean saw the following numbers on mailboxes.

71, 73, 75, 77, 79

How many of the numbers are prime?

A 2  
B 3  
C 4  
D 5

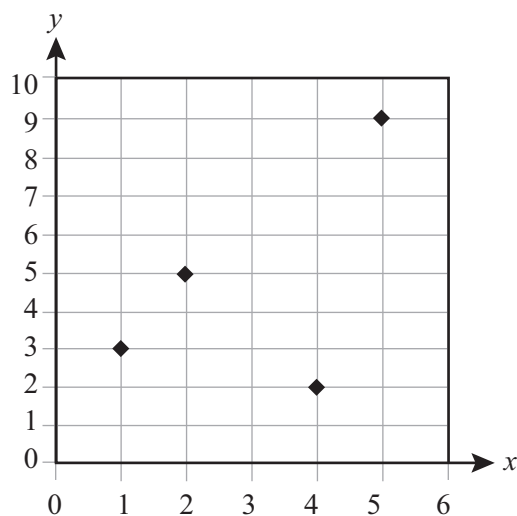


## MATHEMATICS

4. Sandra conducted a survey. She found that 28% of drivers turn on their headlights when driving during the day. Which fraction is equivalent to 28%?

- A  $\frac{1}{28}$
  - B  $\frac{2}{8}$
  - C  $\frac{7}{25}$
  - D  $\frac{18}{25}$
- 

5. The coordinate grid below shows 4 points.



What is the value of  $y$  when  $x = 2$ ?

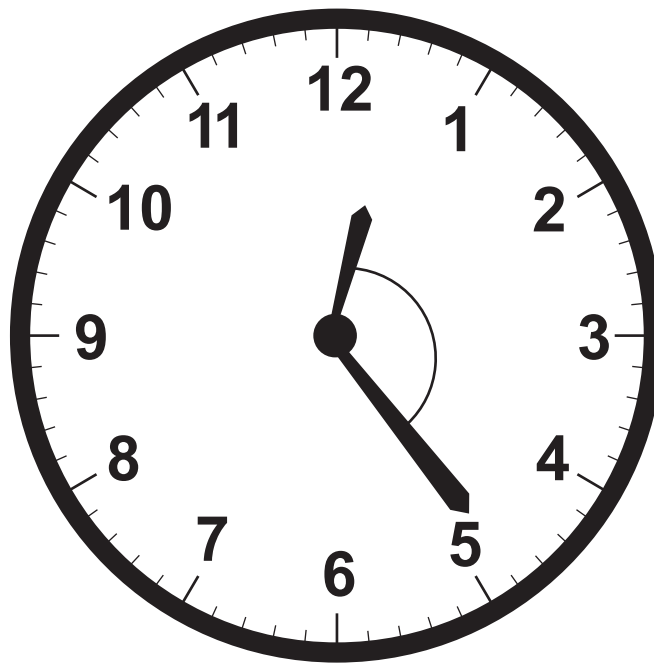
- A 3
- B 4
- C 5
- D 9

## MATHEMATICS

6. Workers dug a hole for the basement of a new home. The hole was 40 feet long, 20 feet wide, and 10 feet deep. What was the volume of the hole that the workers dug?
- A 140 cubic feet
  - B 800 cubic feet
  - C 2,000 cubic feet
  - D 8,000 cubic feet
- 

7. The picture below shows the time on the clock in Parker's bedroom.

Parker's Clock



What is the measure of the angle between the hour and minute hands on the clock?

- A  $22^\circ$
- B  $51^\circ$
- C  $69^\circ$
- D  $129^\circ$

## MATHEMATICS

8. At Greg's party,  $\frac{2}{3}$  of the guests wanted pizza. Of those guests,  $\frac{4}{5}$  wanted cheese pizza. What fraction of Greg's guests wanted cheese pizza?

A less than  $\frac{2}{3}$   
B exactly  $\frac{2}{3}$   
C between  $\frac{2}{3}$  and  $\frac{4}{5}$   
D more than  $\frac{4}{5}$

---

9. Joan has a photo that is 4 inches wide and 6 inches long. She is enlarging the photo by a scale of 1 to 2.5. What is the new measure of the length?

A 8.5 inches  
B 9.0 inches  
C 10.0 inches  
D 15.0 inches

---

10. Justin and Marissa will follow a map for their hike. On the map, 1 centimeter represents 1.5 kilometers. The length of their hike is 8 centimeters on the map. How many kilometers is the hike?

A 6.5 kilometers  
B 9.5 kilometers  
C 12 kilometers  
D 16 kilometers

## MATHEMATICS

11. A coyote runs at a top speed of 43 miles per hour. An antelope runs at a top speed of 61 miles per hour. The equation below shows the relationship between the coyote's top speed and the antelope's top speed.

$$43 + x = 61$$

How much faster in miles per hour ( $x$ ) does the antelope run than the coyote?

- A 18
  - B 61
  - C 52
  - D 104
- 

12. Alex is measuring part of the school playground for a basketball court. Which unit of measure would Alex most likely use?

- A square centimeters
  - B square inches
  - C square yards
  - D square miles
- 

13. Jon is taking a trip. He measures the distance of his trip on a map as  $2\frac{1}{2}$  inches. The scale on the map is 1 inch = 50 miles. What is the total distance of Jon's trip?

- A 20 miles
- B 52.5 miles
- C 100.5 miles
- D 125 miles

## MATHEMATICS

14. Renee wants to order fishing poles for her tour group. The table below shows the total cost ( $c$ ) of ordering  $n$  poles.

**Fishing Poles**

Number ( $n$ )	Total Cost ( $c$ )
3	\$120
4	\$140
5	\$160
6	\$180
7	\$200

Which equation shows the relationship between the number of poles ordered,  $n$ , and the total cost,  $c$ ?

- A  $c = 3n + 120$
- B  $c = 4n + 180$
- C  $c = 20n + 60$
- D  $c = 40n$

- 
15. Walter bought 2.5 yards of fabric at \$3.70 per yard. How much did Walter pay for the fabric?

- A \$7.95
- B \$8.25
- C \$8.95
- D \$9.25

**Turn to page 24 in your answer booklet to complete question 16.**

## MATHEMATICS

17. What is 797.95 expressed in expanded notation?

- A  $(7 \times 100) + (9 \times 10) + (7 \times 1) + (9 \times 0.1) + (5 \times 0.01)$
  - B  $(7 \times 100) + (9 \times 10) + (7 \times 1) + (9 \times 0.01) + (5 \times 0.001)$
  - C  $(797 \times 100) + (95 \times 0.01)$
  - D  $(797 \times 100) + (0.95 \times 0.01)$
- 

18. Terry bought 4 pounds of strawberries for \$11. Which equation can be used to find the cost per pound of strawberries ( $x$ )?

- A  $11 + x = 4$
- B  $4x = 11$
- C  $4 + x = 11$
- D  $11 = \frac{x}{4}$

## MATHEMATICS

19. A librarian receives 2 fiction books for every seventh grader ( $s$ ) at his school and 3 non-fiction books for every eighth grader ( $e$ ). The expression below represents the number of books he receives.

$$2s + 3e$$

This year there were 13 seventh graders and 8 eighth graders. How many books did the librarian receive this year?

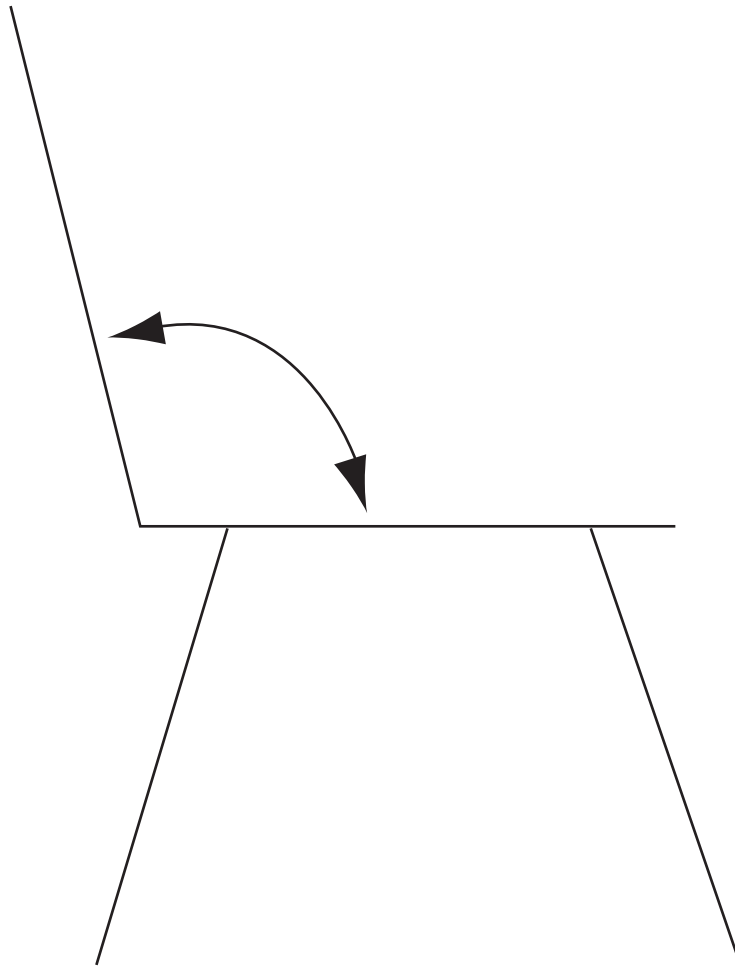
- A 5 books
  - B 21 books
  - C 50 books
  - D 55 books
- 

20. How many faces does a triangular pyramid have?

- A 3
- B 4
- C 6
- D 9

## MATHEMATICS

21. The diagram of a chair is pictured below.



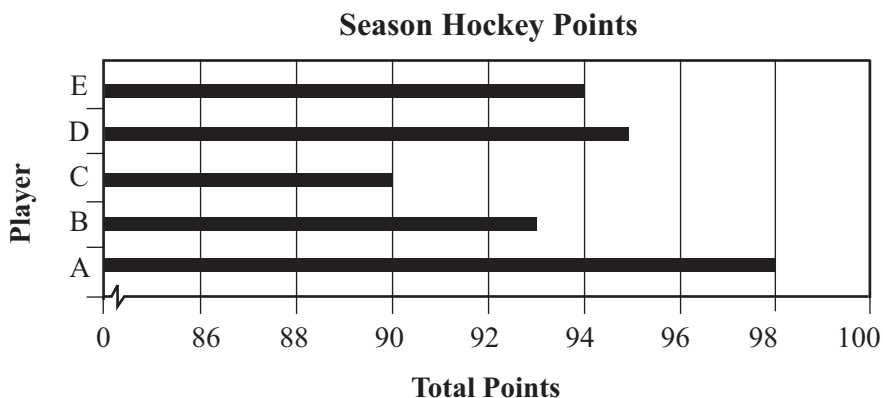
What is the measure of the angle made where the backrest meets the seat of the chair?

- A  $76^\circ$
- B  $84^\circ$
- C  $104^\circ$
- D  $116^\circ$



## MATHEMATICS

22. The graph below shows the total points for 5 hockey players in a season.



What conclusion can be drawn from the graph?

- A Player D had more points than Player A.
  - B Player A had the most points of the 5 hockey players.
  - C All 5 of the hockey players had between 90 and 95 points.
  - D Player A played the most games in the season.
- 

23. What is the value of  $p - p(0.10)$  when  $p = \$60.00$ ?

- A \$54.00
- B \$59.90
- C \$60.10
- D \$66.00

## MATHEMATICS

24. Brenda wanted to see how much water evaporated from an open container. She measured 14.386 liters in the container at the beginning of the day and 13.987 liters 12 hours later. How many liters evaporated during those 12 hours?

A 0.399 liter  
B 0.401 liter  
C 0.409 liter  
D 0.499 liter

---

25. Juan has already written 9 pages in his notebook. He writes 3 pages each week. How many pages will Juan have written in his notebook after 4 more weeks?

A 12  
B 13  
C 21  
D 27

---

26. Cedric has \$0.45 in his pocket. Which fraction of a dollar does Cedric have?

A  $\frac{9}{20}$   
B  $\frac{11}{20}$   
C  $\frac{4}{5}$   
D  $\frac{9}{10}$

## MATHEMATICS

27. Randy used the expression below to find the cost of renting a shed for a certain number of months ( $m$ ).

$$45 + 125m$$

What is Randy's cost to rent the shed for 3 months?

- A \$170
  - B \$173
  - C \$260
  - D \$420
- 

28. Lee built a scale model of his car. The model was 3 inches long. The scale from the model to Lee's car was 1 to 60. What was the length of Lee's car?

- A 20 inches
  - B 57 inches
  - C 63 inches
  - D 180 inches
- 

29. The Jones family has five children. The ages of the children are listed below.

9, 5, 14, 5, 7

What is the median age of the children?

- A 5
- B 7
- C 8
- D 14

## MATHEMATICS

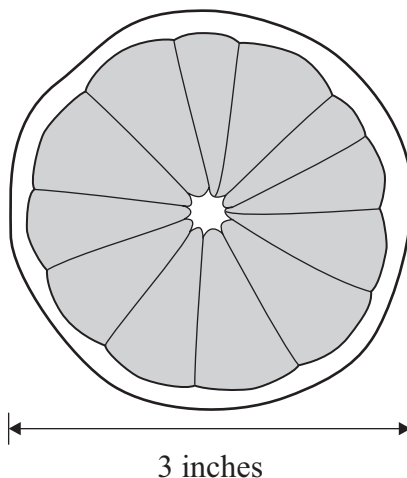
30. Violet made a mirror in the shape of a regular pentagon. Which must be true about the diagonals of the pentagon-shaped mirror?

A 3 of the diagonals are twice as long as the other 2.  
B All of the 5 diagonals are exactly the same length.  
C All of the diagonals intersect at right angles to each other.  
D Each of the 5 diagonals has a different length.

---

31. An orange slice is shown below.

**Orange Slice**



The orange slice is shaped like a circle. The diameter of the orange slice is 3 inches. What is the circumference?

A  $1.5\pi$   
B  $3\pi$   
C  $6\pi$   
D  $9\pi$

## MATHEMATICS

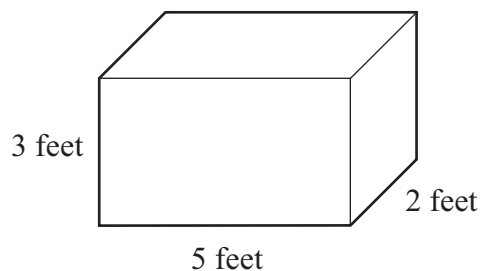
32. Clara examines the following function.

$x$	$y$
1	4
2	11
3	18
4	25
5	32

What is the correct description of the function that gives these results for  $y$ ?

- A add 3 to  $x$
  - B add 7 to  $x$
  - C multiply  $x$  by 5, then subtract 1
  - D multiply  $x$  by 7, then subtract 3
- 

33. A campsite provides a locking, rectangular box with the dimensions shown below to secure food from bears.



What is the surface area of the box?

- A 30 square feet
- B 31 square feet
- C 62 square feet
- D 72 square feet

## MATHEMATICS

34. Reyna is sewing curtains for a theater stage. She needs to measure the area the curtains will cover in order to buy fabric. Which unit of measure would be **best** to use?

A square centimeters  
B square kilometers  
C square miles  
D square yards

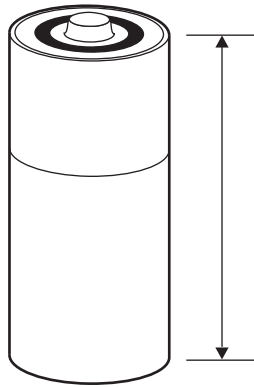
---

35. What is the value of the expression  $0.05x + 0.10y + 0.25z$  when  $x = 2$ ,  $y = 3$ , and  $z = 4$ ?

A 1.00  
B 1.40  
C 3.60  
D 9.40

## MATHEMATICS

36. A battery is shown below.



What is the length of the battery, to the nearest  $\frac{1}{16}$  inch?

- A  $1\frac{5}{16}$  inches
- B  $1\frac{11}{16}$  inches
- C  $2\frac{5}{16}$  inches
- D  $2\frac{11}{16}$  inches

## MATHEMATICS

37. The heights, in centimeters, of 10 people in Lakesha's class are shown below.

98, 113, 108, 105, 105, 111, 108, 120, 110, 117

Which stem and leaf plot represents the heights of the people?

A **Height**

9		8
10		5 8
11		0 1 3 7
12		0

**Key**

10 | 7 = 107

B **Height**

9		8
10		5 5 8 8
11		1 3 7
12		

**Key**

10 | 7 = 107

C **Height**

9		8
10		5 8
11		1 3 7
12		

**Key**

10 | 7 = 107

D **Height**

9		8
10		5 5 8 8
11		0 1 3 7
12		0

**Key**

10 | 7 = 107

- 
38. Jill is flying from Anchorage, Alaska to Key Largo, Florida. Her plane leaves Anchorage at 5:00 AM and her flight lasts 8 hours. The time in Florida is 4 hours later than in Alaska. What time will Jill arrive in Key Largo, Florida?

- A 1:00 AM  
B 9:00 AM  
C 1:00 PM  
D 5:00 PM



## MATHEMATICS

39. What is the name of the polygon with exactly 9 diagonals?

- A hexagon
- B pentagon
- C quadrilateral
- D triangle

---

40. Rita snowboarded  $x$  feet. Nathan snowboarded 438 feet less than twice as far as Rita. The expression below represents the distance Nathan snowboarded.

$$2x - 438$$

Which is an equivalent expression?

- A  $438 + 2x$
- B  $438 - 2x$
- C  $-438 + 2x$
- D  $-438 - 2x$

## MATHEMATICS

41. Jordan is making a necklace. She adds the same number of beads to the necklace each day. The table below shows the total number of beads at the end of each day.

**Jordan's Necklace**

Day	Total Beads
1	3
2	8
3	13
4	18
5	
6	
7	?

The pattern in the table continues. How many total beads does the necklace have at the end of Day 7?

- A 21 beads
- B 33 beads
- C 35 beads
- D 42 beads

- 
42. Mandy made a circular flower garden with a diameter of 7 feet. She wants to put a fence around the outside of the garden. About how much fence does Mandy need to buy? (Use 3.14 for  $\pi$ .)

- A 11 feet
- B 22 feet
- C 38 feet
- D 44 feet

**Turn to page 26 in your answer booklet to complete question 43.**

## MATHEMATICS

44. Sam is 15 years old. Sam is 5 years older than Andy. Which equation represents Andy's age ( $A$ )?

A  $5A = 15$   
B  $A - 5 = 15$   
C  $A + 5 = 15$   
D  $\frac{A}{5} = 15$

---

45. A school bus used 6 gallons of gas on Monday and twice that amount on Tuesday. The total amount of gas used on these two days was  $6 + 2(6)$  gallons. What is another way to write the expression  $6 + 2(6)$ ?

A  $2(6 + 6)$   
B  $(6 + 2)6$   
C  $6 + (6)2$   
D  $6 + 2 + 6$

---

46. Jeri bought her friend Lynn 1 scoop of ice cream in a cone. The store had 6 flavors (vanilla, chocolate, strawberry, mint, rocky road, and coffee) along with 2 different types of cones (waffle and regular). What is the probability that Jeri randomly selected a scoop of chocolate ice cream in a waffle cone for Lynn?

A  $\frac{1}{12}$   
B  $\frac{1}{6}$   
C  $\frac{1}{3}$   
D  $\frac{2}{3}$

## MATHEMATICS

47. The weight of a newborn tiger is shown in the table below.

**Weight of Tiger**

Age (weeks)	Weight (pounds)
0	3
1	5
2	7
3	9
4	11

Which equation **best** represents the relationship between the age ( $a$ ) of the tiger and its weight ( $w$ )?

- A  $w = 2a + 3$
  - B  $w = 3a + 2$
  - C  $a = 2w + 3$
  - D  $a = 3w + 2$
- 

48. Sanjay recorded the density of various substances at 25° Celsius, as shown in the table below.

**Density of Substances at 25°C**

Substance	Density (grams/cm <sup>3</sup> )
aluminum	2.70
gold	19.3
water	0.997
copper	8.92

He then wrote the densities in order, from least to greatest. What is the correct order of the given numbers, from least to greatest?

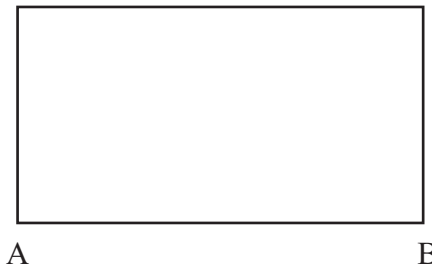
- A 19.3, 8.92, 0.997, 2.70
- B 0.997, 2.70, 8.92, 19.3
- C 19.3, 2.70, 8.92, 0.997
- D 0.997, 2.70, 19.3, 8.92

## MATHEMATICS

49. Rosa made a scale drawing of the front of a rectangular building. The height of the building in her drawing is 4 inches and the width is 8 inches. The scale from the drawing to the building is 1 inch to 12 feet. What is the actual height of the building?
- A 3 feet  
B 16 feet  
C 48 feet  
D 96 feet
- 

50. The diagram below shows a rectangular patch that Sam will use to repair a sail.

**Patch for Sam's Sail**

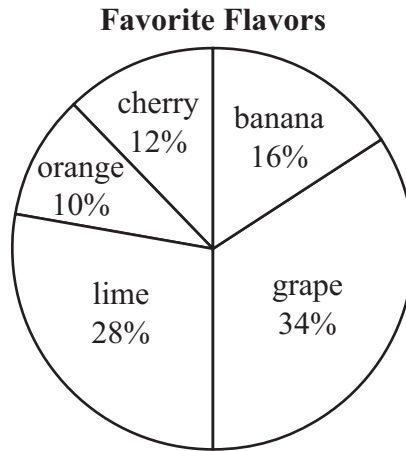


The length of the patch is indicated by  $\overline{AB}$  in the diagram. What is the length of  $\overline{AB}$  in the diagram?

- A  $1\frac{7}{8}$  inches  
B  $2\frac{1}{8}$  inches  
C  $2\frac{1}{4}$  inches  
D  $3\frac{1}{8}$  inches

## MATHEMATICS

51. The circle graph below shows favorite flavors of jellybeans based on a random survey of 50 people.

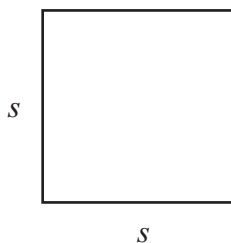


How many more people chose grape than cherry as their favorite flavor?

- A 11 people
  - B 22 people
  - C 23 people
  - D 46 people
- 
52. Travis bought a rectangular prism-shaped storage container for his backyard. It measured 6 feet long, 4 feet wide, and 2 feet high. What is the volume of the storage container?
- A 12 cubic feet
  - B 24 cubic feet
  - C 48 cubic feet
  - D 88 cubic feet

## MATHEMATICS

53. Michael drew a square as shown in the figure below.

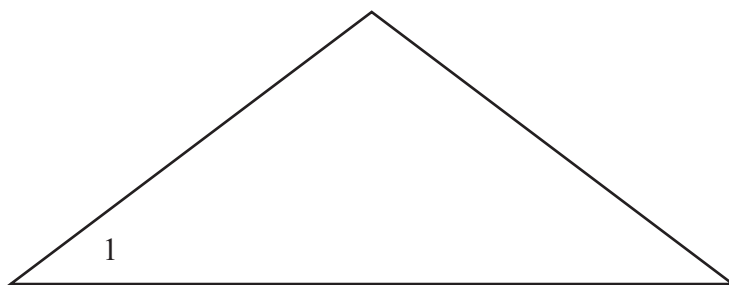


He knows the formula for the area of a square is  $A = s^2$ . How would the area of the square change if he were to make the length of each side 3 times as long?

- A The area would be 3 times larger.
  - B The area would be 6 times larger.
  - C The area would be 9 times larger.
  - D The area would be 12 times larger.
- 

54. Brianne made the triangular design shown below.

**Brianne's Design**



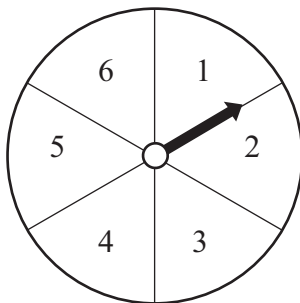
What is the measure of  $\angle 1$ ?

- A  $37^\circ$
- B  $43^\circ$
- C  $143^\circ$
- D  $157^\circ$

## MATHEMATICS

55. Kim is playing a game using the spinner shown below.

Kim's Spinner



What is the probability that the arrow will land on a number greater than 4 on Kim's next spin?

- A  $\frac{1}{6}$
  - B  $\frac{1}{3}$
  - C  $\frac{1}{2}$
  - D  $\frac{2}{3}$
- 

56. Sarah has a box in the shape of a rectangular prism. It is 8 inches wide by 10 inches long by 5 inches high. What is the surface area of Sarah's box?

- A 170 square inches
- B 340 square inches
- C 400 square inches
- D 480 square inches



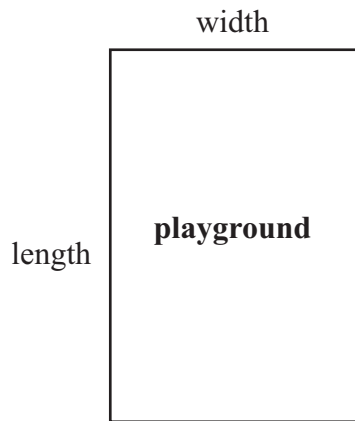
## MATHEMATICS

57. John's locker number is a 2-digit prime number. Which could be John's locker number?

- A 91
- B 93
- C 97
- D 99

---

58. A rectangular playground is shown below.



The area of the playground was increased by doubling the width. The length stayed the same. By how much did the area of the playground change?

- A The area is  $\frac{1}{2}$  times as large.
- B The area is  $1\frac{1}{2}$  times as large.
- C The area is 2 times as large.
- D The area is 4 times as large.

Turn to page 28 in your answer booklet to complete question 59.

**END SESSION**



**DO NOT  
MARK  
ON THIS  
PAGE**

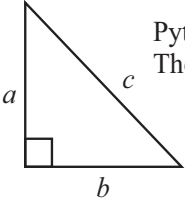
**DO NOT  
MARK  
ON THIS  
PAGE**

**DO NOT  
MARK  
ON THIS  
PAGE**

Name: \_\_\_\_\_

### Mathematics Reference Sheet

Area		Key	
Triangle	$\frac{1}{2}bh$	$b$ = base	$w$ = width
Rectangle	$lw$	$B$ = area of base	$\ell$ = slant height
Trapezoid	$\frac{1}{2}h(b_1 + b_2)$	$h$ = height	$d$ = diameter
Parallelogram	$bh$	$l$ = length	$r$ = radius
Circle	$\pi r^2$	Use 3.14 for $\pi$ .	
		Circumference = $\pi d = 2\pi r$	
Volume		Total Surface Area	
Right Cone	$\frac{1}{3}\pi r^2h$	$\pi r\ell + \pi r^2$	
Square Pyramid	$\frac{1}{3}lwh$	$2\ell + l^2$	
Sphere	$\frac{4}{3}\pi r^3$	$4\pi r^2$	
Right Cylinder	$\pi r^2h$	$2\pi rh + 2\pi r^2$	
Right Rectangular Prism	$lwh$	$2(lw) + 2(hw) + 2(lh)$	
Triangular Prism	$Bh$		

 <p>Pythagorean Theorem: <math>a^2 + b^2 = c^2</math></p>	<p>Distance between two points</p> <p><math>P_1 (x_1, y_1)</math> and <math>P_2 (x_2, y_2)</math>:</p> $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$
<p>Slope-intercept form of an equation of a line, where <math>m</math> = slope and <math>b</math> = the <math>y</math>-intercept:</p> $y = mx + b$	<p>Midpoint between two points</p> <p><math>P_1 (x_1, y_1)</math> and <math>P_2 (x_2, y_2)</math>:</p> $\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
<p>Distance, rate, time formula, where <math>d</math> = distance, <math>r</math> = rate, <math>t</math> = time:</p> $d = rt$	<p>Simple Interest = <math>prt</math></p> <p>where <math>p</math> = principal, <math>r</math> = rate, <math>t</math> = time</p>

Conversions	
1 yard = 3 feet = 36 inches	1 cup = 8 fluid ounces
1 mile = 1,760 yards = 5,280 feet	1 pint = 2 cups
1 liter = 1,000 milliliters = 1,000 cubic centimeters	1 quart = 2 pints
1 meter = 100 centimeters = 1,000 millimeters	1 gallon = 4 quarts
1 kilometer = 1,000 meters	1 meter = 3.28 feet
1 gram = 1,000 milligrams	1 kilogram = 2.20 pounds
1 kilogram = 1,000 grams	1 kilometer = 0.62 miles
1 pound = 16 ounces	1 inch = 2.54 centimeters
1 ton = 2,000 pounds	

**DO NOT  
MARK  
ON THIS  
PAGE**

## ACKNOWLEDGEMENTS

“Digging for History: An Interview with Archaeologist John Blitz” from *Cobblestone’s* October 2003 issue: Indians of the Southeast, copyright © 2003 Carus Publishing Company, published by Cobblestone Publishing, 30 Grove Street, Suite C, Peterborough, NH 03458. Reprinted by permission of the publisher.

“I Live at the Top of the World” copyright © 1998 by Tricia Brown. Reprinted with the permission of Alaska Northwest Books®, an imprint of Graphic Arts Center Publishing Company.

“A Winter’s Eve” first appeared in *Merlyn’s Pen: Fiction, Essays, and Poems by American Teens*. Copyright Merlyn’s Pen. All rights reserved.

“Fly High, Bessie Coleman” copyright © 2004 by Highlights for Children, Inc., Columbus, Ohio.

“Fired Up Over Night Lights” copyright © 2001 Sean Price/National Geographic Image Collection. Reprinted with permission.



## Grade 7

Reading ★ Writing ★ Mathematics Practice Test Book  
Form 7PTRWM

**Copyright © 2012 by Alaska Department of Education & Early Development. Only the State of Alaska educators and citizens may copy, download, and/or print the document, located online at [www.eed.state.ak.us](http://www.eed.state.ak.us). Any other use or reproduction of this document, in whole or in part, requires written permission of the Alaska Department of Education & Early Development.**